



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1

In re Application of:

Jacque C.S. Kools et al.

Date Filed:

November 12, 2003

Serial No.:

10/706,637

Group Art Unit:

2822

Examiner:

Kevin M. Picardat

Title:

Method and Apparatus for Fabricating a Conformal

Thin Film on a Substrate

Mail Stop Amendment
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

Dear Sir:

I hereby certify that this Information Disclosure Statement is being deposited with the United States Postal Service as Express Mail No. <u>EV351287575US</u> addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 18, 2005.

Angela Loding

INFORMATION DISCLOSURE STATEMENT

Applicants respectfully request, pursuant to 37 C.F.R. §§1.56, 1.97, and 1.98, that the references listed on the attached PTO-1449 form be considered and cited in the examination of the above-identified application. Since the present Application was filed after June 30, 2003, a copy of any U.S. Patent and any U.S. Patent Application Publication cited on the attached PTO Form 1449 is not being submitted with this Information Disclosure Statement pursuant to the July 11, 2003 waiver of 37 C.F.R. §1.98(A)(2)(i) by the U.S. Patent and Trademark Office.

Furthermore, pursuant to 37 C.F.R. §§1.97 (g) and (h), no representation is made that these references are material to the patentability of the present application.

2

Applicants believe no fees are due, however, the Commissioner is hereby authorized to charge any fee to Deposit Account No. 50-2148 of Baker Botts L.L.P. in order to effectuate this filing.

Respectfully submitted,

BAKER BOTTS L.L.P. Attorneys for Applicants

Paula D. Heyman Reg. No. 48,363

Date: Feb. 18, 2005

Correspondence Address:

Customer No. **31625**

(512) 322-2581

(512) 322-8328 - FACSIMILE

Page 1 of 5

PT	0-1449	9			Аррисацоп No.	'	Applicant(s)					
		5			10/706,637		Jacques C.S. Kools et al.					
	A) 10	Fination Disclos		n	Docket Number		Group Art Unit		Filing Date			
/		in an Applica	ation		021208.0247		2822 Nove			nber 12, 2003		
3	FEB 1	8 2005 S		U.S	S. PATENT DOCUMENTS		_ 					
1/6	& TRAC	5616177	DATE		NAME		CLASS	SUB	CLASS	FILIN	FILING DATE	
	A.	5616177	4/1/1997		Yamada		117_	1	102	2/22/95		
	В.	5879459	3/09/1999		Gadgil et al.		118	715		8/29/97		
	C.	5916365	6/29/1999		Sherman		117	92		8/16/96		
	D.	5930046	7/27/1999		Solberg et al.		359		580	9/30/97		
	E.	5944964	8/31/1999		Solberg et al.		204	19	2.26	2/	13/97	
	F.	6015590	1/18/2000		Suntola et al.		427	25	5.23	09	/25/96	
	G.	6144060	11/7/2000		Park et al.		257		310	7/31/98		
	Н.	6174377	1/16/2001	_	Doering et al.	ļ	118	7	729	1/4/99		
	I.	6200893	3/13/2001		Sneh	438		685		3/11/99		
	J.	6200866	3/13/2001		Ma et al.		438		299		9/30/99	
	К.	2001/0024387	24387 9/27/2001 Raaijmakers et al. 365		200		2/22/01					
	Ļ.	6319439	11/20/2001		Lee et al.		264	81		2/25/00		
	М.	6335240	1/1/2002		Kim et al.		438	253		1/6/99		
	N.	6342277	1/29/2002		Sherman		427		562		4/14/99	
O. 2002/0013487 1/31/2002			Norman et al.	l	556		7	2/	22/01			
			.	FORE	IGN PATENT DOCUMENT	S			,			
		DOCUMENT NO. DATE			COUNTRY		CLASS	SUB	CLASS	YES	SLATION NO	
	P.	62221102	09/29/1987	JP	(with English abstract)		H01F	. 4	1/14		Х	
	Q.	00/38191	06/29/2000		WO		G11C	1	1/15	X		
	R	02/09126	01/31/2002		wo		H01F	10	0/32	х		
	S.	02/09158	01/31/2002		WO	ļ	H01L	2	1/00	х		
	Т.	01/88972	11/22/2001		WO	H01L		21/321		х		
		NON-PATENT	DOCUMENTS -	DOCUM	IENT (Including Author, T	itle, So	ource, and Pe	rtinent P	ages)			
	U.	Addison, C.C. et al. "Th State", J. Chem. Soc., p		re of Anh	ydrous Copper Nitrate, and	its Mo	lecular Weight	in the Va	pour	1958		
	V.	Akerman, J.J et al., "Identifying Tunneling in Ferromagnetic-Insulator-Ferromagnetic Thin Film Structures", Worldwide web, physics.ucsd.eduiksgrp/Tunneling.html, pp. 1-6,										
	w.	Bobo, J.F. et al., "Spin- Physics, vol. 83, No. 1"		ling Junc	tions with Hard Magnetic la	yer Pir	nning", <i>Journal</i>	l of Applie	ed	1	1998	
	X.	Daughton, J.M., World-wide web nve.com/otherbiz/mram2.pdf, "Advanced MRAM Concepts", pp. 1-6								02/07/2001		
	Y.	Fereday, R.J. et al., "Anhydrous Cobalt (III) Nitrate", Chemical Communications, pp. 271									1968	
EXA	MINER					DAT	E CONSIDERI	ED				
	EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include conv of this form with next communication to the applicant											

PTC)-1449)		Application No.	Applicant(s)	Applicant(s)				
				10/706,637	Jacques C.	Jacques C.S. Kools et al.				
	Info	rmation Disclos		Docket Number	Group Art	Unit Filing Da	Filing Date			
		in an Applica	ation ———	021208.0247	2822	Novem	November 12, 2003			
				U.S. PATENT DOCUMENTS		•				
		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILIN	IG DATE		
	Α.	6358632	3/19/2002	Dickey et al.	428	690	11	11/10/98		
	B.	2002/0041931	4/11/2002	Suntola et al.	Suntola et al. 427 255.28		5/14/01			
	C.	6391785	5/21/2002	Satta et al.	438	704	8/23/00			
	D.	6416577	7/9/2002	Suntola et al.	117	88	06	06/07/00		
	E.	6420230	7/16/2002	Derderian et al.	438	255	8/	31/00		
	F.	2002/0106846	8/8/2002	Seutter et al.	438	200	2	2/2/01		
	G.	2002/0106846	8/8/2002	Seutter et al.	438	200	2/2/01			
	Н.	2002/0108570	8/15/2002	Lindfors	118	715	4/16/01			
	I.	6441417	8/27/2002	Zhang et al.	257	295	3/28/01			
	J.	6444495	9/3/2002	Leung et al.	438	118	1/11/01			
	K.	6447607	9/10/2002	Soininen et al.	117	200	12/27/00			
	L.	6448192	9/10/2002	Kaushik	438	785	4/16			
	М.	6451119*	9/17/2002	Sneh et al.	118	715	11	/29/00		
	N.	6451695	9/17/2002	Sneh	438	685	12	/22/00		
	Ο.	2002/0137260	9/26/2002	Leung et al.	438	118	1/	11/01		
	P.	2002/0140103	10/3/2002	Kloster et al.	257	767	3/28/01			
				FOREIGN PATENT DOCUMENT	rs					
		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	YES	SLATION NO		
	Q.									
	R.									
		NON-PATENT	DOCUMENTS -	DOCUMENT (Including Author, T	itle, Source, and Pe	ertinent Pages)				
	S.			ding Heads and Dry Etching Head	Materials*, IBM Journ	nal of Research		1000		
	т.	and Development, vol. 4 Imai, Takuji, World-wide Around the Corner*, pp.	web nikkeibp.asia	abiztech.com/nea/200008/tech_108	3675.html, "100 Gbit/	Inch HDD Just	1999 08/2000			
	U.	Nilsen, O et al, "Thin Film Deposition of lanthanum Manganite Perovskite by the ALE Process", <i>Journal of Materials Chemistry</i> , vol. 9, pp. 1781-1784.								
	V .	Chemistry, vol. 9, pp. 1781-1784. Pakrad, C.D., "Pure Tech: Growth of MR/GMR Head Materials," World-wide web, puretechinc.com/tech_papers/tech_papers-4.htm, pp. 1-2 1999								
	W.									
	X. Suntola, Tuomo; Handbook of Crystal Growth, vol. 3, Thin Films and Epitaxy, Part B: Growth Mechanisms and Dynamics, Chapter 14, pp. 601-663, Hurle, ed. Elsevier Science B.V.									
EXAN	MINER				DATE CONSIDER	ED				
							·			
	EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.									

Page 3 of 5

PTO-1449					Application No.	A	Applicant(s)					
					10/706,637	J	Jacques C.S. Kools et al.					
	Info	rmation Disclos		on	Docket Number	*	Group Art Unit		Filing Dat	e		
		in an Applica	ation		021208.0247		2822		Novemi	November 12, 2003		
				U.S	S. PATENT DOCUMENTS							
		DOCUMENT NO.	DATE		NAME	(CLASS	SUBC	SUBCLASS		G DATE	
	Α.	6464779	10/15/2002		Powell et al.		117		 39	1/19/01		
	В.	6475910	11/5/2002		Sneh		438	685		9/22/00		
	C.	6475276	11/5/2002	-	Elers et al.		117	84		10/13/00		
	D.	6482262	11/19/2002	-	Elers et al.		117	84		10/13/00		
	E.	6482740	11/19/2002		Soininen et al.		438	6	86	5/	15/01	
	F.	2002/0187084	12/12/2002		Lindfors et al.		422		77	7/:	24/02	
	G.	6503330	1/7/2003		Sneh et al.		118		15	12/22/99		
	Н.	6506352	1/14/2003		Lindfors et al.		423	2	40	7/20/00		
	I.	6524952	2/25/2003		Srinivas et al.		438		649		6/20/00	
	J.	6540838	4/1/2003		Sneh et al.		118		715		6/28/02	
	K.	6548424	4/15/2003		Putkonen		438		785		4/16/01	
	L.	6551406	4/22/2003		Kilpi		118 728		12/27/00			
	М.	6562140	5/13/2003		Bondestam et al.		118 715		5/10/00			
	N.	2003/0096468	5/22/2003		Soininen et al.		438 200		11/19/02			
	О.	6572705	6/3/2003		Suntola et al.		118		02	1/14/00		
	P.	2003/0101927	6/5/2003		Raaijmakers		117	2	00	12/	/10/02	
				FORE	IGN PATENT DOCUMENT	s						
		DOCUMENT NO.	DATE		COUNTRY	(CLASS SUBCLASS		TRAN YES	SLATION NO		
	Q.					ļ 						
		NON-PATENT	DOCUMENTS	- DOCUM	IENT (Including Author, Ti	tle, So	urce, and Pe	rtinent Pa	ages)			
	R.				O2/SiN/CU via Structures L VAc. Sci. Technology B, vo				Oxygen	Nov./E	Dec. 1998	
	S.	Utriainen, et al., "Studie Precursors", Applied Su			n an Atomic Layer Epitaxy r p. 151-158.	eactor	Using M(acad	:)2(M=Ni,	Cu, Pt)	2	2000	
	т.				ly High Density Magnetic Re ord, CA 94305-4045, presen		g Heads," De	partment o	of		no date available	
	U.	World-wide web, megahaus.com/tech/westerndigital/shitepapers/gmr_wp.shtml., "GMR Head Technology: Increased Areal Density and Improved Performance Areal Density," pp. 1-4. 02/200								/2000		
	V.	World-wide web, pcguide.com/ref/hdd/op/heads/techGMR-c.html, "Giant Magnetoresistive (GMR) Heads", pp. 1-4. 12/18/2004										
	w.	World-wide web, semiconductor.net/semiconductor/issues/Issues/1998/feb98/docs/emerging.asp, "GMR Read-Write									/1998	
	X.	World-wide web, stoner.leeds.ac.uk/research/gmr.htm, "Giant Magnetoresistance (GMR) Heads", pp. 1-6.								Printed 02/04/2002		
EXA	MINER					DATE	CONSIDERE	ED .				
	EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.											

PT	O-1449	9		Application No.	Applicant(s)	Applicant(s)			
				10/706,637	Jacques C.	Jacques C.S. Kools et al.			
	Info	rmation Disclo		Docket Number	ket Number Group Art Unit		Filing Date		
		in an Applic	ation	021208.0247	021208.0247 2822 Nove				
			<u></u>	U.S. PATENT DOCUMENT	s				
		DOCUMENT NO. DATE		NAME	CLASS	SUBCLASS	FILING DATE		
	A.	6579374	6579374 6/17/2003 Bondestam et al. 118 725		725	1/25/01			
	В.	2003/0121469	7/3/2003	Lindfors et al.	117	105	10/11/02		
	C.	6599572	7/29/2003	Saanila et al.	427	249.18	1/18/01		
	D.	2003/0140854 7/31/2003		Kilpi	118	715	2/13/03		
	E.	6602784	8/5/2003	Sneh	438	680	8/6/02		
	F.	2003/0150385	8/14/2003	Bondestam et al.	118	722	3/6/03		
	G.	6616986	9/9/2003	Sherman	427	562	10/9/01		
	Н.	6620723	9/16/2003	Byun et al.	438	627	6/27/00		
	I.	6627268	9/30/2003	Fair et al.	427	533	5/3/01		
	J.	2003/0183171	10/2/2003	Sneh et al.	118	724	3/27/03		
	K.	6630401	10/7/2003	Sneh	438	680	8/6/02		
	L.	6630030	10/7/2003	Suntola et al.	118	728	1/4/00		
	М.	6632279	10/14/2003	Ritala et al.	117	101	10/13/00		
	N.	6635965	10/21/2003	Lee et al.	257	758	10/9/01		
	O.	6638862	10/28/2003	Sneh	438	685	8/6/02		
	P.	6638859	10/28/2003	Sneh et al.	438	680	9/27/02		
	Q.	6638810	10/28/2003	Bakli et al.	438	240	11/5/01		
	R.	6652924	11/25/2003	Sherman	427	576	5/24/01		
	S.	6660126	12/9/2003	Nguyen et al.	156	345.34	3/2/01		
	Т.	6664192	12/16/2003	Satta et al.	438	704	4/15/02		
i	U.	2004/0005753	1/8/2004	Kostamo et al.	438	222	3/20/03		
	V.	2004/0007171	1/15/2004	Ritala et al.	117	89	7/10/03		
	W.	6679951	1/20/2004	Soininen et al.	148	240	11/13/01		
				FOREIGN PATENT DOCUME	NTS				
	7- (DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO		
	X.						120 110		
		NON-PATE	NT DOCUMENTS -	DOCUMENT (Including Author	, Title, Source, and Pe	ertinent Pages)	•		
	Y.	 			-				
	Z.								
EX	EXAMINER DATE CONSIDERED								
FY	AMINED	· Initial if citation conside	red whether or not ci	tation is in conformance with MPEP	8 609 Draw line through	h citation if not in cor	formance and not		
		nclude copy of this form v			a toy. Dian inic unoug				

Page 5 of 5

PT	0-1449)		Application No.	Applicant(s)					
				10/706,637	Jacques C.S	Jacques C.S. Kools et al.				
	Info	rmation Disclo		On Docket Number	Group Art U	Jnit	Filing Date			
		in an Applic	alion	021208.0247	2822		November 12, 2003			
-				U.S. PATENT DOCUMENTS	<u> </u>	•				
		DOCUMENT NO.	DATE	NAME	CLASS	SUBC	LASS	FILIN	G DATE	
	A.	6689210	2/10/2004	Soininen et al.	117	8	9	7/24/02		
	В.	6720260	4/13/2004	Fair et al.	438	68	680 6/3		20/03	
	C.	2004/0076837	4/22/2004	Hein et al.	428	428 446		10/22/02		
	D.	2004/0076751	4/22/2004	Sherman	427	427 255.34		10/10/03		
	E.	6727169	4/27/2004	Raaijmakers et al.	438	622			23/00	
	F.	2004/0083949	5/6/2004	Sherman	117	8	4	10/	22/03	
	G.	6734020	5/11/2004	Lu et al.	436	5	5	3/	7/01	
	Н.	2004/0121616	6/24/2004	Satta et al.	438	77	778 12/8/0		/8/03	
	l.	6759081	7/6/2004	Huganen et al.	427	5	58 4/30/		30/02	
	J.	2004/0130029	7/8/2004	Raaijmakers et al.	257	75	758 12/		15/03	
	К.	6764546 7/20/2004		Raaijmakers	117	9	93		12/10/02	
	L.	6767582	7/27/2004	Elers	427	25	253		10/12/00	
	M.	6777353	8/17/2004	Putkonen	438	785		4/8/03		
	N.	2004/0161636	8/19/2004	Hujanen et al.	428	69	92	2/	17/04	
	О.	6794287	9/21/2004	Saanila et al.	438	67	74	3/2	3/20/03	
	P.	6800173	10/5/2004	Chiang et al.	156	345	5.33	7/	9/01	
	Q.	6800552	10/5/2004	Elers et al.	438	68	30	9/17/02		
	R.	2004/0202786	10/14/2004	Wongsenakhum et al.	427	427 250			3/31/04	
	S.	6811814	11/2/2004	Chen et al.	427	427 248.			1/16/02	
	T.	6818067	11/16/2004	Doering et al.	118	71	15	4/15/02		
	U.	6821889	11/23/2004	Elers et al.	438	438 680			0 7/30/02	
				FOREIGN PATENT DOCUMENT	'S					
		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS		TRANSLATION YES NO		
	V.									
-	W.									
	X.									
NON-PATENT DOCUMENTS - DOCUMENT (Including Author, Title, Source, and Pertinent Pages)										
	Y.									
Z.										
EXA	MINER				DATE CONSIDERE	ED .				
	EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.									